

Federal Communications Commission

445 12th Street, S.W.

Washington D.C. 20544

Re: ET Docket No. 09-36 (RM-11404, FCC 09-20)

Notice of Proposed Rulemaking - Amendment of Parts 2 and 95 of the
Commission's Rules to Provide Additional Spectrum for the Medical Device
Radiocommunication Service in the 413-457 MHz Band

Dear Sir or Madame:

Thank you for the opportunity to comment on this Notice of Proposed Rule Making. NDI Medical is a medical device developer of both external and implantable devices utilizing neurostimulation for the treatment of disease and disability. Although our efforts to date have exclusively used with one device per patient, therapies have been discussed for years that could best be implemented through the coordinated operation of two or more implanted devices. To that end, we view the proposed rule change as a positive step toward increasing the options for new and better active medical implants.

Many of the technical specifics on which comment was solicited are beyond our current experience or planning, however I offer the following for your consideration (by item number in Federal Register Notice):

5. The 400MHz - 457MHz band is ideally suited for medical implants. Higher frequencies have relatively large RF absorption by body tissue; and lower frequencies offer less efficient radiation by an electrically "very small" antenna.

9. In addition to Functional Electrical Stimulation (FES), it is readily conceivable that therapeutic electrical stimulation, sensory substitution, and brain-machine systems might make use of a network of implantable devices that would require the bandwidth and responsiveness allowed by the proposed rule change.

16. The option for implant-to-implant communications should not be excluded unnecessarily. Although arguably difficult to specify a need at this time, the history of medical electronics suggests that in time such applications will arise.

17. The 3MHZ bandwidth suggested as an alternative by the Commission seems to be reasonable for any application conceivable at this time. It is likely that the power constraints on active implants will remain for the foreseeable future, and collecting, processing, transmitting, and possibly receiving data at higher data rates would seriously tax those implanted energy sources.

18. The Commission proposal NOT to specify a channeling scheme appears to be reasonable and leave options available.

19., 20, & 21. The specifics of the Contention-Based Protocol will become a key element of hardware-software implementations using this band. The goal should be to keep the potential for interfering with other

medical implants (on the same or other patients; by the same or other manufacturers) to a minimum while not introducing an overly complex or prescriptive protocol. We encourage the Commission to consider adopting general performance requirements; e.g., maximum continuous message duration, minimum Listen-Before-Talk monitor intervals, maximum allowable delay between Listen-Before-Talk monitoring intervals, etc. This would allow the implementation of many and varied protocols that might have specific advantages for the varied applications likely to emerge in this band while ensuring spectrum sharing even across devices-manufacturers.

We believe that the proposed rule change is a good use of spectrum with little potential for interfering with existing communications services while significantly expanding the wireless communications options for implantable and body-worn devices.

Thanks you for the opportunity to comment on your proposed rule change and please do not hesitate to contact me if I can further clarify our views or perspectives.

Sincerely yours,

Bob Strother

VP, Engineering & Chief Technology Officer

NDI Medical, LLC

22901 Millcreek Blvd.

Suite 110

Cleveland, OH 44122

(216)-378-9106 #110 (phone)

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<p class=3DMsoNormal><NAME> Robert B. Strother, Jr.<o:p></o:p></p>

<p class=3DMsoNormal><ADDRESS1> 37895 <st1:City w:st=3D"on"><st1:place w:st=3D"on">Rogers</st1:place></st1:City> Rd.<o:p></o:p></p>

<p class=3DMsoNormal><ADDRESS2> <o:p></o:p></p>

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<p class=3DMsoNormal><LAW-FIRM> N/A</o:p></p>

<p class=3DMsoNormal><ATTORNEY> N/A</o:p></p>

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<p class=3DMsoNormal><PHONE-NUMBER> 216-378-9106</o:p></p>

<p class=3DMsoNormal><DESCRIPTION> Email Comment</o:p></p>

<p class=3DMsoNormal><CONTACT-EMAIL> bstrother@ndimedical.com</o:p></p>

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Commission<o:p></o:p></p>

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